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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,481	05/31/2000	Marcos N. Novaes	POU9-2000-0014-US1	4790

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10/20/2003

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EXAMINER

WON, YOUNG N

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,481

Applicant(s)

NOVAES ET AL.

Examiner

Young N Won

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. New claim 25 and amended claims 1-4, 8, 10-11, 15, 17-18, 22, and 24 have been examined.
2. Claims 1-25 are pending with this action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 10-14, 18-21, and 24-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Chao et al. (US 6438705 B1) in view of Krause (US 6047323 A).

As per claims 1, 2, and 3, Chao teaches a method, a system, and at least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of, serializing replicated transactions in a distributed computing environment (see abstract and col.1, lines 14-15), said method comprising: initiating a modification operation on a replicated

resource of a distributed computing environment (see col.9, lines 54-67); during a phase of said modification operation, detecting whether a conflict for said replicated resource exists (see col.8, lines 16-27); and satisfying said conflict, if said conflict exists (see col.9, lines 45-47). Chao does not teach that the conflict is satisfied without requiring locking of said replicated resource. Krause teaches of satisfying conflict without requiring locking of said replicated resource (see col.55, lines 18-25 and col.69, line 66 to col.70, line 7). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Krause within the system of Chao by satisfying conflicts without requiring locking of said replicated resources within the method, system and program of serializing replicated transactions because Krause teaches that the controlling thread can update information without locks due to the drivers access the same information. Therefore, the elimination of locks enables the system to function more efficiently, responsively, and with less delay.

As per claims 4, 11, and 18, Chao further teaches wherein the modification operation comprises a plurality of phases (see col.3, lines 4-7), and wherein the detecting comprises detecting whether a conflict for the replicated resource exists during a first phase of the modification operation (see col.9, lines 26-32).

As per claims 5, 12, and 19, Chao further teaches wherein the distributed computing environment comprises a processing group (see col.2, lines 43-46) with a plurality of members (see col.9, lines 13-17), and wherein the first phase proceeds in parallel with respect to the plurality of members (see col.4, line 65 to col.5, line 13).

As per claims 6, 13, and 20, Chao further teaches wherein the satisfying comprises satisfying the conflict during a second phase of the modification operation (see 11, line 50 to col.12, line 25 & lines 44-62).

As per claims 7, 14, and 21, Chao and Krause further teach wherein the distributed computing environment comprises a processing group with a plurality of members (see claim 5 rejection above), and wherein the second phase (see claim 6 rejection above) proceeds serially with respect to at least some of the plurality of members in order to satisfy the conflict (see Krause: col.69, lines 39-56).

As per claims 10, 17, and 24, Chao further teaches wherein the distributed computing environment comprises a processing group with a plurality of members (see claim 5 rejection above), and wherein the detecting comprises comparing requests for the replicated resource from at least some of the plurality of members (see col.3, lines 49-54).

As per claim 25, Chao does not explicitly teach wherein the satisfying comprises using a two-phase commit to satisfy the conflict. Krause teaches wherein the satisfying comprises using a two-phase commit to satisfy the conflict (see col.50, lines 56-58). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Krause within the system of Chao by comprising using a two-phase commit to satisfy the conflict within the method, system and program of serializing replicated transactions because Chao states that any ("n": see col.3, lines 4-7) phase may be employed.

4. The indicated allowability of claims 8-9, 15-16, and 22-23 are withdrawn in view of the newly discovered reference(s) to Chao et al. (US 6438705 B1), Krause (US 6047323 A), and Sonnier et al. (US 5574849 A). Rejections based on the newly cited reference(s) follow.

Claims 8-9, 15-16, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chao et al. (US 6438705 B1) and Krause (US 6047323 A), further in view of Sonnier et al. (US 5574849 A).

As per claims 8, 15, and 22, Chao and Krause teach a method, a system, and at least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of, serializing replicated transactions in a distributed computing environment comprising: initiating a modification operation on a resource of a distributed computing environment comprising a processing group with a plurality of members, and wherein the modification operation comprises a plurality of phases; during a first phase of said modification operation, detecting whether a conflict for said resource exists; and satisfying said conflict, if said conflict exists, without requiring locking of said resource, wherein the satisfying comprises satisfying the conflict during a second phase of the modification operation, and wherein the second phase proceeds serially with respect to at least some of the plurality of members in order to satisfy the conflict (see claim 1-7 rejection above). Chao and Krause do not teach wherein the satisfying comprises at least one of the at least some of the plurality of members withholding information in

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order for the second phase to proceed serially. Sonnier teaches wherein the satisfying comprises at least one of the at least some of the plurality of members withholding information in order for the second phase to proceed serially. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Sonnier within the system of Chao and Krause by implementing at least some of the plurality of members withholding information in order for the second phase to proceed serially within the method, system, and program of serializing replicated transactions because when data is written at one location by more than one member at the same time error and data corruption will occur.

As per claims 9, 16, and 23, Krause further teaches wherein the information comprises an acknowledgement (see col.26, lines 15-17).

Response to Remarks

5. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

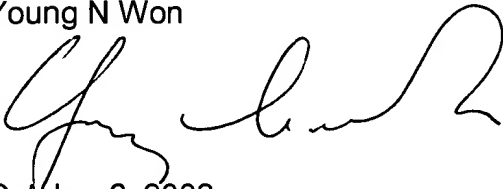
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Young N Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 8AM-6PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Young N Won



October 6, 2003


HOSAIN ALAM
SUPERVISORY PATENT EXAMINER